

# Work Order ID 65365

January 13, 2011 9:41:25 AM

Ship 18/01



Page 1

Item ID: D3137-5

Accept



Setup Start



Revision ID:

Stop



Item Name: Washer

Start Date: 1/13/11

Start Qty: 8.00



Cust Item ID:

Required Date: 1/17/11

Req'd Qty: 8.00



Customer:

Reference:

Approvals:

Process Plan: U

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D3137	Rev F								

100		0.00							
	Hardinge CNC LATHE SMALL								
Hardinge	Memo	0.00							
Hardinge CNC Lathe Small	1-Machine as per Folio FA471 and Dwg D3137-12-Identify as D3137-5113-Deburr								

SH 11/1/13

8 6

110		0.00							
	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									

SH 11/1/13

8 6

120		0.00							
	QC8- Inspect parts - second check								
QC	Memo	0.00							
Quality Control									

SH 11/01/13

8 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 65365

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Page 2

Item ID: D3137-5

Accept



Setup Start



Revision ID:

Stop



Item Name: Washer

Start Date: 1/13/11 Start Qty: 8.00



Cust Item ID:

Required Date: 1/17/11 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:




Run Start



QC: Date: SPC (Y/N): Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
 HandFinish	Memo	0.00				8	0	11-01-14	
Hand Finishing									
140	QC3- Inspect Part Finish	0.00							
 QC	Memo	0.00				8		BL 11-01-14.	
Quality Control									
150	QC5- Inspect part completeness to step on W/O	0.00							
 QC	Memo	0.00							
Quality Control	Inspect work to Step 7								

11.01.14 perm. change

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

**Work Order ID 65365**

Page 3

January 13, 2011 9:41:25 AM

Item ID: D3137-5

Accept



Setup Start



Revision ID:

Stop



Item Name: Washer

Start Date: 1/13/11 Start Qty: 8.00



Cust Item ID:

Required Date: 1/17/11 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  Packaging Packaging	Identify as per dwg & Stock Location: _____  Memo	0.00  0.00							<u>12/01/14</u> (8)
170  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							<u>12/01/14</u> J

u 11.06.4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

January 13, 2011 9:41:23 AM

Page 1

Work Order ID: 65365

Parent Item: D3137-5

Parent Item Name: Washer



Start Date: 1/13/11

Required Date: 1/17/11

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP 04.11.04 New issue KJ/JLM  
IPP Rev B 08.07.03 ECN1207 EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M6061T6R0.750		Purchased	No			100	f	47.9648	0.0208	0.175158			
---------------	--	-----------	----	--	--	-----	---	---------	--------	----------	--	--	--



6061-T6 Round Bar .750"



11/11/13

Location	Loc Qty	Loc Code
MAT	47.948	
115469	0.0027	
115869	2.4453	
116406	45.5	
MAT012	0.016842105	
112442	0.01684211	

24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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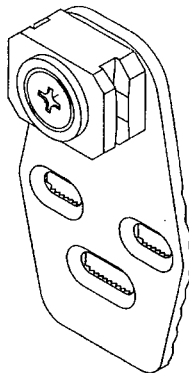
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

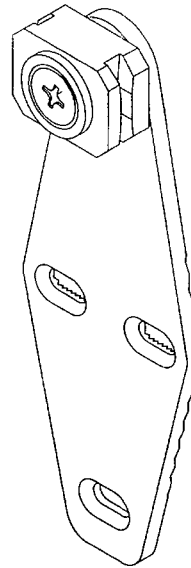
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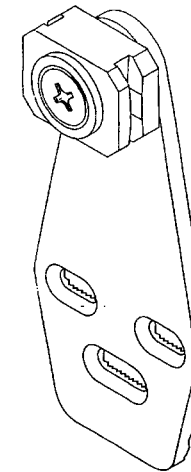




**D3137-041 BRACKET ASSEMBLY**





**D3137-043 BRACKET ASSEMBLY**



**D3137-045 BRACKET ASSEMBLY**

**RELEASE**  
08.05.30

*W05365*

F	REDRAWN & REFORMATTED IN SOLIDWORKS. SHEET 3 ZONE A 5 DIM 2.36 WAS 2.48, ZONE A 4 0.480 DIM WAS 0.605, ZONE A 8 0.67 DIM WAS 0.79, ZONE B 5 4 850 DIM WAS 4.975 & ZONE B8 5.29 DIM WAS 5.41. REASON: PART TRIMMED DUE TO INTERFERENCE WITH EXECUTIVE INTERIOR.			AJS	08.05.30
E	ADD -045			RF	05.11.23
D	RE-DESIGN D3137-5; CHANGE DIMS			DS	04.11.03
C	ADD -043			DS	03.08.15
B	ADD RIDGES; ADD MATERIAL PROP			DS	03.01.16
A	NEW ISSUE			DS	02.04.17
REV.	DESCRIPTION			BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA			
DRAWN	AJS				
CHECKED		DRAWING NO.	REV. F		
MFG. APPR.		D3137	SHEET 1 OF 5		
APPROVED		TITLE	SCALE		
DE APPR.		BRACKET ASSEMBLY	NTS		
DATE	08.05.30	COPYRIGHT © 2002 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

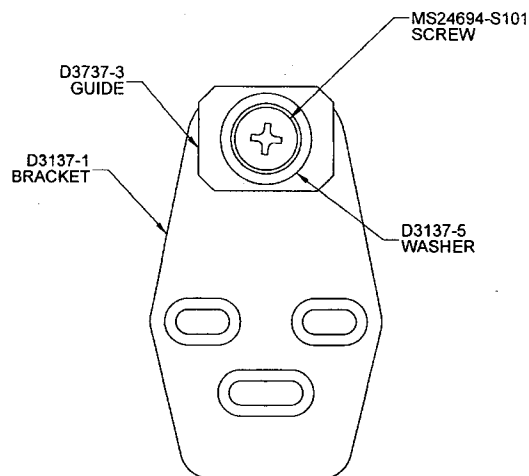
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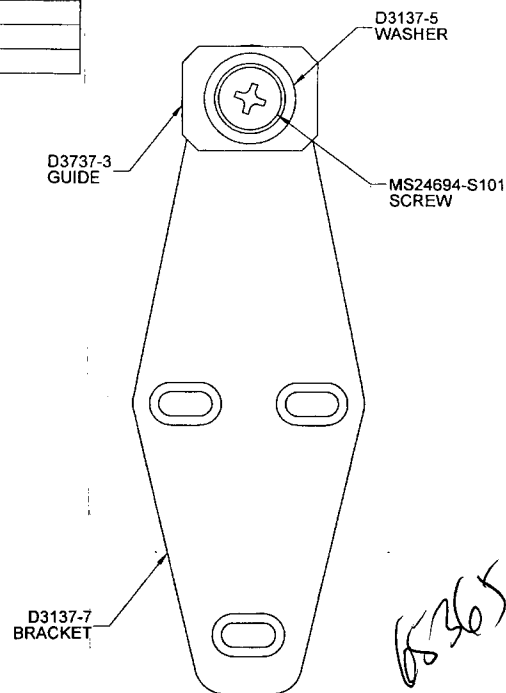
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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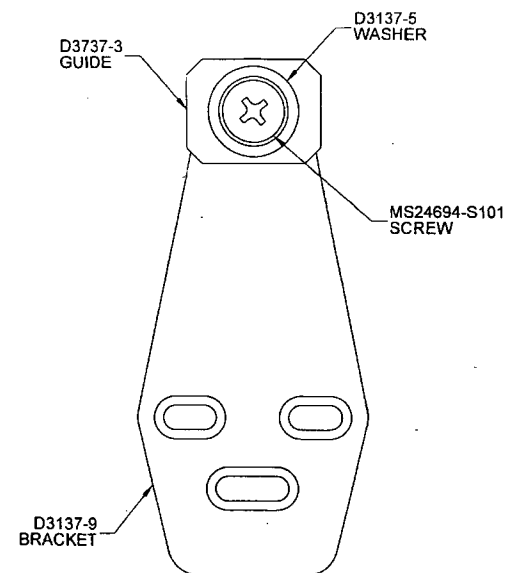
QTY. -041	QTY. -043	QTY. -045	PART NUMBER	DESCRIPTION
X			D3137-041	BRACKET ASSEMBLY
	X		D3137-043	BRACKET ASSEMBLY
		X	D3137-045	BRACKET ASSEMBLY
1			D3137-1	BRACKET
1	1	1	D3137-3	GUIDE
1	1	1	D3137-5	WASHER
	1		D3137-7	BRACKET
		1	D3137-9	BRACKET
1	1	1	MS24694-S101	SCREW



**D3137-041 BRACKET ASSEMBLY**



**D3137-043 BRACKET ASSEMBLY**



**D3137-045 BRACKET ASSEMBLY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs -041  
: 0.32 lbs -043  
: 0.27 lbs -045

**RELEASED**  
08-06-26/11

DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 2 OF 5
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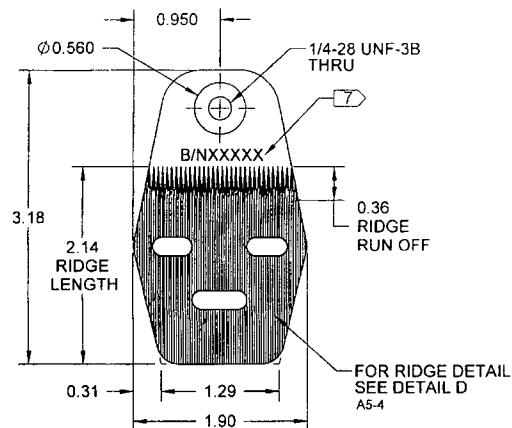
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

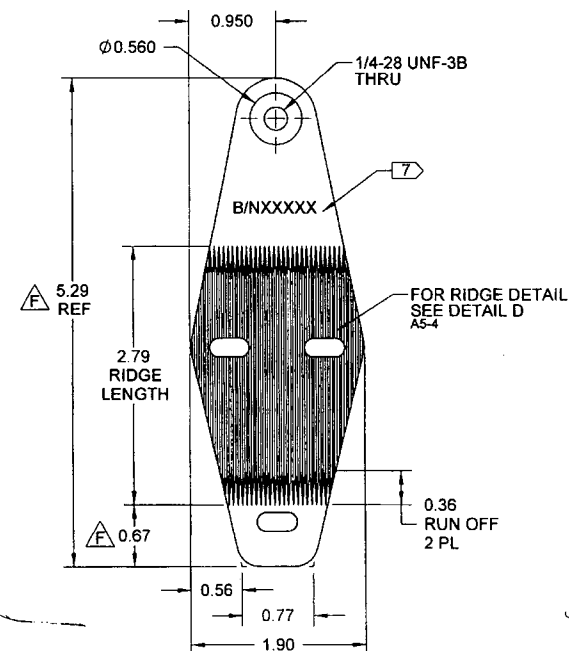
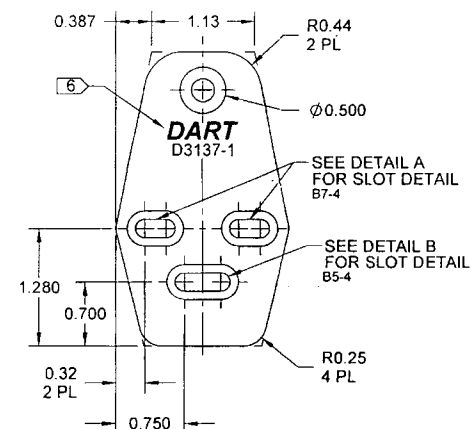
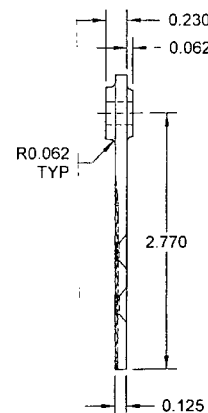
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

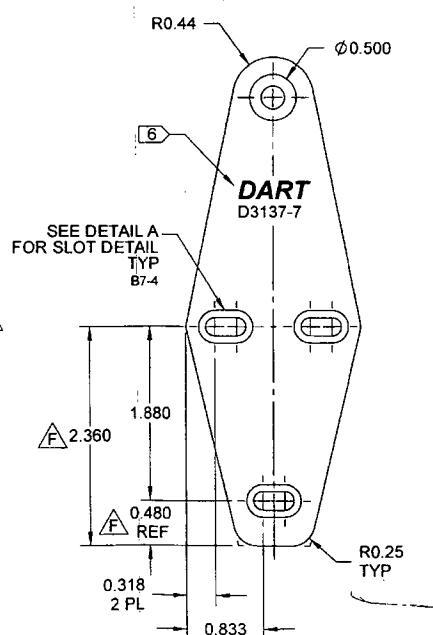
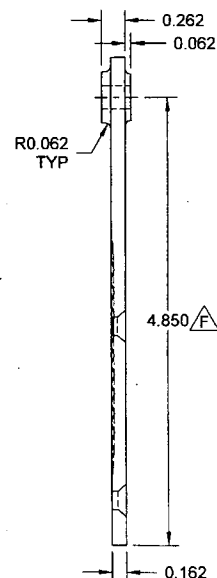
**NOTE:** Date & initial all entries



**D3137-1 BRACKET**



**D3137-7 BRACKET**



**NOTES:**

- 1) MATERIAL: -1 & -7  
17-4PH STAINLESS STEEL  
PER AMS 5604 OR 5643  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi  
PER DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: ENGRAVE DART LOGO USING 0.20 HIGH LETTERS & P/N WITH USING .15 HIGH LETTERS TO A MAX. DEPTH OF 0.010.
- 7) SCRIBE WITH DART B/N USING VIBRATING STYLUS
- 8) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
- 9) -1 REPLACES PREMIER P/N B30-23000-105/-106

**RELEASED**  
08-06-26

DESIGN	DS	<b>DART AEROSPACE LTD</b>	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 3 OF 5
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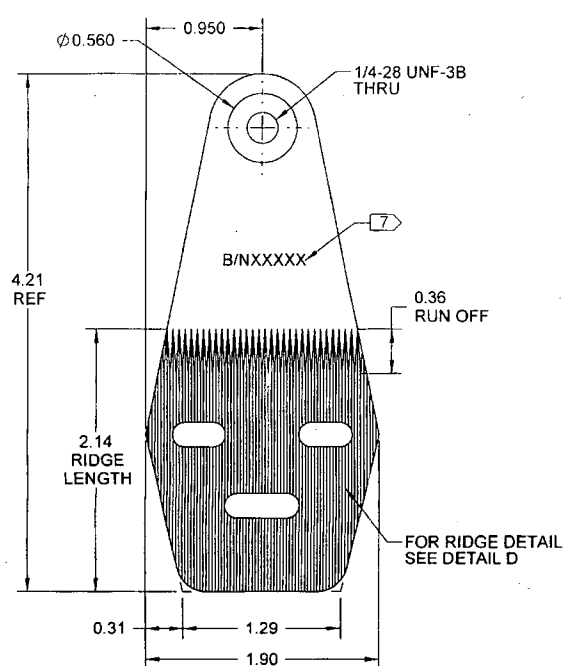
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

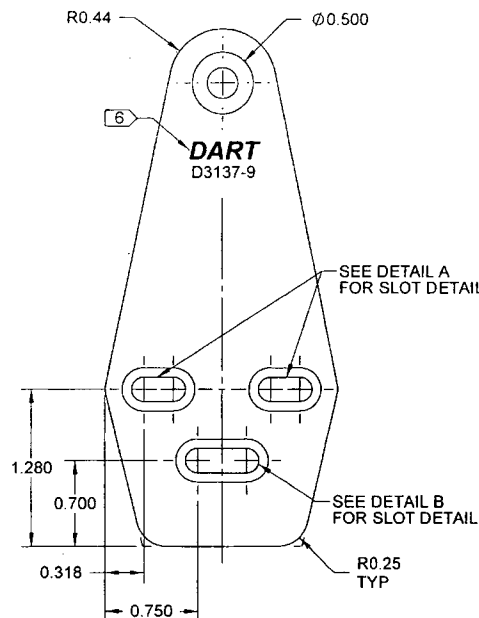
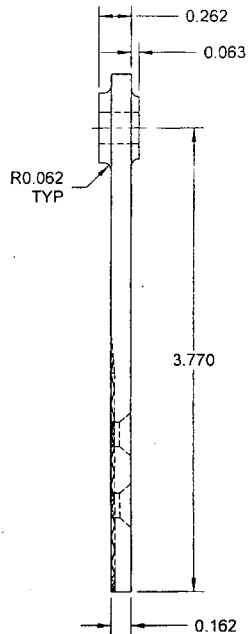
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**NOTE:** Date & initial all entries

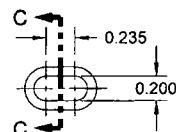


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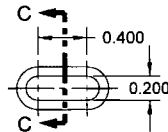


65365

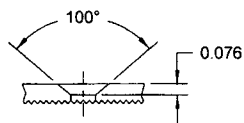
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08-06-26/11P



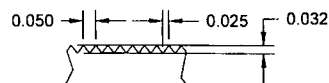
**DETAIL A**  
(SLOT DETAIL)



**DETAIL B**  
(SLOT DETAIL)



**SECTION C-C**  
(SLOT DETAIL)



**DETAIL D**  
SCALE 2X  
(TYPICAL RIDGE DETAIL)

**NOTES:**

- 1) MATERIAL: 17-4PH STAINLESS STEEL  
PER AMS 5604 OR 5643  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi  
PER DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: ENGRAVE DART LOGO USING 0.20 HIGH LETTERS & P/N WITH USING .15 HIGH LETTERS TO A MAX. DEPTH OF 0.010
- 7) SCRIBE WITH DART B/N USING VIBRATING STYLUS
- 8) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
- 9) REPLACES PREMIER P/N B30-23000-105/-106

DESIGN	DS	<b>DART AEROSPACE LTD</b>	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3137	SHEET 4 OF 5
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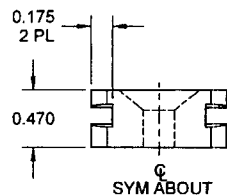
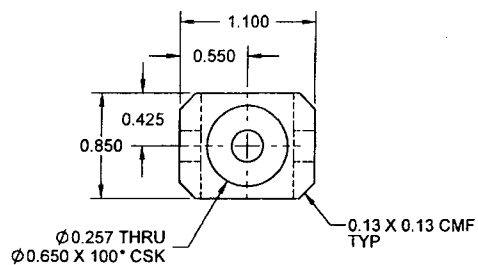
W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

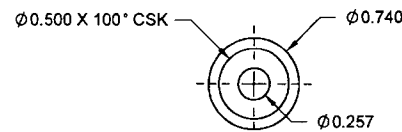
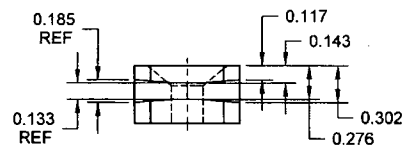
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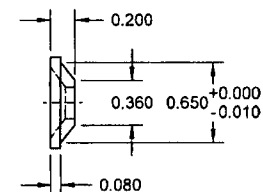
**NOTE:** Date & initial all entries



**D3137-3 GUIDE**



**D3137-5 WASHER**



**NOTES:**

- 1) MATERIAL: -3  
DELTRIN II 150E OR ACETRON GP ACETAL, BAR  
(REF DART SPEC M-DELTRIN-B)
- 5  
6061-T6 (OR 6061-T651/ T6510/ T6511/ T62) ALUMINUM BAR  
PER-AMS-QQ-A-225/8 (OR AMS 4117/ 4128/ 4145/ 4116)  
OR PER-QQ-A-200/8 (OR AMS 4160)  
REF. DART SPEC M6061T6R
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (-5 ONLY)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE ASSEMBLED WEIGHT ON SHEET 2
- 8) -3 REPLACES PREMIER P/N B30-2300-207  
-5 REPLACES PREMIER P/N B30-2300-209

**RELEASED**

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CHECKED	JJS	DRAWING NO.	REV. F
MFG. APPR.	JJS	D3137	SHEET 5 OF 5
APPROVED	JJS	TITLE	SCALE
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